DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1/6/2010 have been fully considered but they are not persuasive.

Regarding applicant's arguments regarding the Ito reference not disclosing "synchronizing a new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than a next UWB time". The examiner points the applicant back to the cited portions combined with the Rotstein reference disclosing wherein a calculation of a CDMA wakeup time is determined based on a typical slotted paging mode CDMA system, therefore determining when the radio will wakeup.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 9-11, 13, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito(EP 1 089 578 A2) in view of Rotstein et al (US 6,289,228).

Regarding claim 9, Ito Fig.8 teaches a method for synchronizing a wakeup schedule for a UWB module and a wakeup schedule (Fig.10) for a communications module in a wireless mobile unit, said method comprising: determining a current communications time from a received pilot signal transmitted from a base station (BS) (0052); and determining a current UWB time from an internal clock in the UWB module 21; calculating a communications interval (Gap between W-CDMA and BT wait operation), said communications interval equaling a next communications wakeup time less said current communications time; and synchronizing a new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than a next UWB time (¶0049-0052).

However, the Ito reference does not specifically teach wherein a communications interval is calculated. The Rotstein reference discloses a CDMA system wherein the CDMA wakeup time is calculated based on a typical slotted paging mode CDMA system, the radio telephone will wake up before Slot N to acquire the pilot channels, synchronization, and poll the paging channels before receiving the paging message in Slot N. (Col.9 line 20-35).

It would have been obvious to one of ordinary skill in the art to implement the calculation of a communications interval of a CDMA time intervals as taught by Rotstein to the wakeup schedule of Ito in order to calculate an exact interval of CDMA communications interval.

Regarding claim 10, Ito and Rotstein combined teaches establishing said next communications wakeup time prior to said step of calculating said communications time interval; and establishing said next UWB wakeup time prior to said step of synchronizing said new UWB time (¶0049-0052).

Regarding claim 11, Ito and Rotstein combined teaches a step of performing a UWB wakeup process and a communications wakeup process substantially at said new UWB wakeup time (¶0049-0052).

Regarding claims 13 and 24, Ito and Rotstein combined teaches said wireless mobile unit comprises a UWB-enabled communications mobile phone (figures 8).

Regarding claim 25, Ito and Rotstein combined teaches a wireless unit comprising: a memory means(12); a means for performing a communications wakeup process at a next communications wakeup time; means for computing next wakeup time; (wait time period setting means 111) and a means for synchronizing a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time (¶0049-0052).

3. Claims 1, 2, 4-8, 12, 14, 16, 20-23, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito(EP 1 089 578 A2) in view of Rotstein et al (US 6,289,228).in view of Mayo et al. (US 6,571,111).

Regarding claim 1, Ito teaches a method for synchronizing a wakeup schedule Fig.10 (module 11) for a first communications module (WCDMA module 21) and a wakeup schedule (module 11) for a second communications module (Blue Tooth system) in a wireless mobile unit, said method comprising: "wait period setting control means 111 terminates the wait operation period according to the BT system in synchronization with the trailing edge of the W-CDMA wait operation period.);computing a next wakeup time for the second communication module to the next wakeup time for the first communications module; and synchronizing a new second wakeup time to said next first communications wakeup time when said next first communications wakeup time is earlier than a next second wakeup time (¶ 0049-0051).

The Ito reference however does not specifically disclose computing a next wakeup time for the first communications module, the computing act is based at least in part on a time period set by the wireless module unit.

However, the Ito reference does not specifically teach wherein a communications interval is calculated. The Rotstein reference discloses a CDMA system wherein the CDMA wakeup time is calculated based on a typical slotted paging mode CDMA system, the radio telephone will wake up before Slot N to acquire the pilot channels,

synchronization, and poll the paging channels before receiving the paging message in Slot N. (Col.9 line 20-35).

It would have been obvious to one of ordinary skill in the art to implement the calculation of a communications interval of a CDMA time intervals as taught by Rotstein to the wakeup schedule of Ito in order to calculate an exact interval of CDMA communications interval.

The Mayo reference however discloses specific lengths of time between the wakeup time periods of a mobile device calculated within the mobile phone. (Col.3 line 49-63 and Col.4 line 3-17)

It would have been obvious to one of ordinary skill in the art to implement the predetermined set amount of time between wakeup modes as disclosed by Mayo to the wakeup system of Ito in order to limit the amount of information needed to be communicated by the central network and the mobile device to synchronize the wakeup periods.

Regarding claim 2, Ito, Rotstein and Mayo combined teaches a method for synchronizing a wakeup schedule for a UWB module (WCDMA module 21) and a wakeup schedule for a communications module in a wireless mobile unit said method comprising: calculating a next communications wakeup time based at least in part on a time period set by the wireless mobile unit; calculating a next UWB wakeup time; and synchronizing a new UWB wakeup time to said next communications wakeup time

when said next communications wakeup time is earlier than the next UWB wakeup time (¶ 0049-0051).

Regarding claim 4, Ito, Rotstein and Mayo combined teaches determining a current communications time (Fig,10 CPU operation); and determining a current UWB time W_CDMA wait operation (¶0049-0051).

Regarding claim 5, Ito, Rotstein and Mayo combined teaches determining a communications interval, said communications interval (BT wait operation) equaling said next communications wakeup time less said current communications time (¶0049-0051).

Regarding claim 6, Ito, Rotstein, and Mayo combined teaches a step of synchronizing said new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than said next UWB time (¶0049-0051).

Regarding claim 7, Ito, Rotstein, and Mayo combined teaches a step of performing a UWB wakeup process and a communications wakeup process substantially at said new UWB wakeup time (¶0049-0051).

Regarding claims 8 and 12, Ito, Rotstein, and Mayo combined teaches said performing step comprises a step of powering on said UWB module and said communications module substantially simultaneously so as to reduce said wireless mobile unit's power consumption (¶ 0053).

Regarding claim 14, Ito teaches a wireless mobile unit Fig.8 comprising: a communications module 2 configured to perform a communications wakeup process Fig.9 at a next communications wakeup time, wherein the communications module includes a communications transmitter/receiver 2 and a communications antenna 23 configured to receive a pilot signal from a base station BS so as to synchronize the communications antenna configured to receive a pilot signal from a base station so as to synchronize the communications module with said base station and derive a current communications time from said pilot signal;

a UWB module 2 configured to perform a UWB wakeup process 111, wherein the UWB module comprises a clock, said clock being configured to track a current UWB time; and a processor configured to synchronize a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time (¶0049-0052).

However, the Ito reference does not specifically teach wherein a communications interval is calculated. The Rotstein reference discloses a CDMA system wherein the CDMA wakeup time is calculated based on a typical slotted paging mode CDMA system, the radio telephone will wake up before Slot N to acquire the pilot channels,

synchronization, and poll the paging channels before receiving the paging message in Slot N. (Col.9 line 20-35).

It would have been obvious to one of ordinary skill in the art to implement the calculation of a communications interval of a CDMA time intervals as taught by Rotstein to the wakeup schedule of Ito in order to calculate an exact interval of CDMA communications interval.

The Ito reference however does not specifically disclose computing a next wakeup time for the first communications module, the computing act is based at least in part on a time period set by the wireless module unit.

The Mayo reference however discloses specific lengths of time between the wakeup time periods of a mobile device calculated within the mobile phone. (Col.3 line 49-63 and Col.4 line 3-17)

It would have been obvious to one of ordinary skill in the art to implement the predetermined set amount of time between wakeup modes as disclosed by Mayo to thw wakeup system of Ito in order to limit the amount of information needed to be communicated by the central network and the mobile device to synchronize the wakeup periods.

Regarding claim 16, Ito, Rotstein, and Mayo combined teaches said UWB module is configured to perform said UWB wakeup process at said new UWB wakeup time when said next communications wakeup time is earlier than said next UWB wakeup time (¶0049-0052).

Regarding claim 20, Ito, Rotstein, and Mayo combined teaches said processor is further configured to calculate a communications interval, said communications interval equaling said next communications wakeup time less said current communications time (¶0049-0052).

Regarding claim 21, Ito, Rotstein, teaches said processor is further configured to synchronize said new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than said next UWB time (¶0049-0052).

Regarding claim 22, Ito, Rotstein, and Mayo combined teaches said communications module performs said communications wakeup process and said UWB module performs said UWB wakeup process substantially at said new UWB wakeup time (¶0049-0052).

Regarding claim 23, Ito, Rotstein, and Mayo combined teaches said communications module and said UWB module are configured to power on substantially simultaneously so as to reduce said wireless mobile unit's power consumption (¶0049-0052).

Regarding claim 27, Ito teaches a digital signals processing apparatus comprising: a memory means 12 for storing digital data; and a digital signal processing means 11 for interpreting digital signals to synchronize a wakeup schedule for a UWB module 2 and a wakeup schedule (Fig.10) for a communications module in a wireless mobile unit Fig.8 by: determining a next communications wakeup time; and synchronizing a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time (¶0049-0052).

However, the Ito reference does not specifically teach wherein a communications interval is calculated. The Rotstein reference discloses a CDMA system wherein the CDMA wakeup time is calculated based on a typical slotted paging mode CDMA system, the radio telephone will wake up before Slot N to acquire the pilot channels, synchronization, and poll the paging channels before receiving the paging message in Slot N. (Col.9 line 20-35).

It would have been obvious to one of ordinary skill in the art to implement the calculation of a communications interval of a CDMA time intervals as taught by Rotstein to the wakeup schedule of Ito in order to calculate an exact interval of CDMA communications interval.

The Ito reference however does not specifically disclose computing a next wakeup time for the first communications module, the computing act is based at least in part on a time period set by the wireless module unit.

The Mayo reference however discloses specific lengths of time between the wakeup time periods of a mobile device calculated within the mobile phone. (Col.3 line 49-63 and Col.4 line 3-17)

It would have been obvious to one of ordinary skill in the art to implement the predetermined set amount of time between wakeup modes as disclosed by Mayo to the wakeup system of Ito in order to limit the amount of information needed to be communicated by the central network and the mobile device to synchronize the wakeup periods.

Regarding claims 28, Ito, Rotstein, and Mayo combined teaches said digital signal processing means further interpreting digital signals to establish said next UWB wakeup time after said determining a next communications wakeup time and before said synchronizing a new UWB wakeup time (¶0049-0052).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD CHAN whose telephone number is (571)272-0570. The examiner can normally be reached on Mon-Fri 10AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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